

What is claimed is:

1. A condenser comprising:

a condensing tube including a refrigerant inlet formed at
5 one end thereof, a refrigerant outlet formed at the other end
thereof, and a passage pipe having a heat radiation protrusion
formed on an outer circumference thereof; and

a cooling plate having a groove on which the condensing
tube is mounted so as to prevent a separation of the condensing
10 tube, and a plurality of bent pieces formed protruding from left
and right sides of the groove.

2. The condenser of claim 1, wherein the heat radiation
protrusion comprises a plurality of first heat radiation
15 protrusions shaped in a pyramid, the plurality of first heat
radiation protrusions being not formed on a part of the outer
circumference of the condensing tube mounted on the groove and
face-contacting the cooling plate.

20 3. The condenser of claim 1, wherein the heat radiation
protrusion comprises a plurality of second heat radiation
protrusions protruded in a serration shape where a triangle
protrusion is attached on the outer circumference of the cooling
tube, the plurality of second heat radiation protrusions being
25 not formed on a part of the outer circumference of the condensing

tube mounted on the groove and face-contacting the cooling plate.

4. The condenser of claim 1, wherein the heat radiation protrusion comprises a plurality of heat radiation wings each
5 having an apex portion and a space defined between the apex portions, the plurality of heat radiation wings being not formed on a part of the outer circumference of the condensing tube mounted on the groove and face-contacting the cooling plate.

10 5. The condenser of claim 1, wherein the cooling plate has a bent portion bent in a groove shape having a predetermined depth, and a vent part including a plurality of vent holes defined at a side portion of the bent part, for circulating external air.

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6. The condenser of claim 5, wherein the vent part comprises a first vent part having a plurality of depressed portions and a second vent part a plurality of protruded portions.

20 7. The condenser of claim 1, wherein the cooling plate has a rectangle shaped through hole defined between a plurality of grooves.

8. A condenser comprising:
25 a condensing tube constructed in a passage pipe including a

refrigerant inlet formed at one end thereof and a refrigerant outlet formed at the other end thereof; and

a cooling plate having a groove on which the condensing tube is mounted so as to prevent a separation of the condensing tube, and a plurality of bent pieces formed protruding from left and right sides of the groove, the cooling plate being bent in a multi-layer structure of a three dimension to increase an area ratio per unit volume.

9. The condenser of claim 8, wherein the condensing tube comprises a plurality of heat radiation protrusions formed on an outer circumference thereof, the plurality of heat radiation protrusions being not formed on a part of the outer circumference of the condensing tube mounted on the groove and face-contacting the cooling plate.

10. The condenser of claim 8, bent in a hexahedron shape of a three dimension.